

I claim:

1. A device applied to scaling factor of horizontal scan of a scanner, comprising mainly:

5 an input conducting wire situated at the foremost end of a scanner and used as an input end of signal;

an addition device connected to said input conducting wire;

a shifting device with one end thereof connected to said input conducting wire and the other end thereof connected to said addition device; and

10 a shifter with one end thereof connected to said addition device and the other end thereof connected to an output conducting wire.

2. The device as claimed in claim 1, wherein said shifting device is formed by winding conducting wires.

3. The device as claimed in claim 2, wherein said shifting device is a bus
15 shifting circuit formed of logical gates.

4. The device as claimed in claim 1, wherein said shifting device comprises at least $(\log_2 n)$ shifters, n being at least 2^i more than the number of bits of signal and i being an integer.

5. The device as claimed in claim 1, wherein said addition device comprises at
20 least $(\log_2 n - 1)$ adders, n being at least 2^i more than the number of bits of signal and i being an integer.

6. The device as claimed in claim 1, wherein said input conducting wire and said output conducting wire are used to input and output signals, respectively.

7. A method applied to scaling factor of horizontal scan of a scanner,

comprising mainly the steps of:

transferring an input signal to an addition device and a shifting device, right-shifting said input signal n bits and then transferring to said addition device by said shifting device;

5 adding said input signal and an output signal of said shifting device by said addition device; and

right-shifting an output signal of said addition signal 2 bits and then outputting the result by said shifting device.

8. The method as claimed in claim 7, wherein a $(\log_2 n - 1)$ th adder of said
10 addition device adds an output signal of a $(\log_2 n - 2)$ th adder and an output signal of a $(\log_2 n - 1)$ th shifter, and then outputs an output signal to a $(\log_2 n)$ th shifter.

9. The method as claimed in claim 8, wherein the value of n is at least 2^i more than the number of bits of signal, i being an integer.

15 10. The method as claimed in claim 7, wherein a $(\log_2 n)$ th shifter of said shifting device right-shifts an output signal of a $(\log_2 n - 1)$ th adder t bits, and then outputs the result.

11. The method as claimed in claim 10, wherein the value of n is at least 2^i more than the number of bits of signal, i and t being integers.

20 12. A device applied to scaling factor of horizontal scan of a scanner, comprising mainly:

an input conducting wire situated at the foremost end of a scanner and used as an input end of signal;

at least an adder connected to said input conducting wire;

at least a shifter with one end thereof connected to said input conducting wire and the other end thereof connected to said adder; and
a end shifter with one end thereof connected to said adder and the other end thereof connected to an output conducting wire.

5 13. The device as claimed in claim 12, wherein said shifter is formed by routing wires.

14. The device as claimed in claim 12, wherein said shifter is a bus shifting circuit formed of logical gates.

10 15. The device as claimed in claim 12, wherein said input conducting wire and said output conducting wire are used to input and output signals, respectively.